REMARKS

The present invention relates to injection molded ("I/M") containers having a desirable balance of i) stiffness at high temperatures and ii) excellent drop strength.

The containers of this invention are made with a very specific type of polyethylene. The polyethylene is a copolymer having a very high density (from 0.950 to 0.955 g/cc).

In addition, and more significantly, the polyethylene has a narrow molecular weight distribution of from 2.2 to 2.8. This type of copolymer may be prepared in a dual reactor solution polymerization process (as noted at paragraph (0028) of the present published application).

Most importantly, the containers of this invention are prepared without a low density "impact modifier". It is well known to improve the impact properties of high density resins by blending them with a low density polymer. However, this blending step is expensive. The present invention eliminates the need for this low density impact modifier.

Claims 1-3 were rejected under 35 USC 103(a) as being unpatentable over USP 5,804,660 (hereinafter Whetten et al.) in view of USP 5,747,594 (hereinafter de Groot et al.), which is respectfully traversed.

Whetten et al. disclose I/M containers which are made with a polymer blend. The blends of Whetten et al. must contain at least two components, namely:

1) from 75 to 99 weight % of polyolefins which are impact modified ("component A") (see column 9, line 17 and claim 1) and;

2) from 1 to 25 weight % of a polymer having a low density (as defined by the

claims, this polymer must have a density of from 0.85 to 0.91 g/cc – i.e. it is a low density copolymer). For convenience, this polymer is sometimes referred to hereinafter as the "Whetten et al. impact modifier".

It is well known to those skilled in the art that the impact properties of I/M resins may be improved by the addition of a low density polymer, (and this may be confirmed by a review of the teachings of Whetten et al. and the references cited therein).

The blends of Whetten et al. contain a very specific type low density polymer as the impact modifier. In particular, the low density polymer used by Whetten et al. must be a "homogeneous" copolymer having a defined "SCBDI", a single melting point, "no measurable high density fraction" and a low density (of from "0.83 g/cc to 0.91 g/cc") – see claim 1. Thus, applicants respectfully submit that Whetten et al. disclose the impact modification of an I/M resin using a specific type of low density polymer (i.e., the "Whetten et al. impact modifier" is a low density polymer).

The examiner made the following observations about the impact modifier: "Applicant further argues that the impact modifier must have a very low density. However, the examiner is unable to find support for applicants argument in the disclosure of Whetten".

In response, applicants respectfully direct the examiner's attention to:

1) Claim 1 of Whetten et al. (which specifies that component B must have a density of from 0.85 to 0.91 g/cc);

2) Column 6, lines 32-45 (which describe the amount of the "homogeneous linear" polymer as being between 1 and 25% and the density as being from a low of 0.865 g/cc to "no higher than about 0.92 g/cc"); and

3) The Examples of Whetten et al. (which disclose the use of "substantially linear" impact modifiers having densities between 0.885 and 0.913 g/cc).

Thus, in summary, applicants respectfully submit that the specification of Whetten et al. clearly requires the use of a low density polymer as an impact modifier.

The present invention does not contain a low density impact modifier.

The examiner also noted: "Applicants argue that Whetten et al. encompasses a narrow molecular weight distribution".

Applicants respectfully disagree. Applicants did not argue that Whetten et al. encompasses a narrow molecular weight distribution. Instead, applicants noted that the "Whetten et al. impact modifier" has a narrow molecular weight distribution. In fact, as previously noted, the examiner's reference to column 8 (lines 60-62) of Whetten et al. is directed to "linear and substantially linear ethylene – alpha olefin polymers". These "substantially linear" polymers are the Whetten et al. impact modifiers (see Claim 1 and column 9, lines 16-23). That is – it is the "Whetten et al. impact modifier" which has the molecular weight distribution of from 1.5 to 2.5.

Whetten et al. make no such teaching about "component A" (i.e., the "polyolefins which are impact modified" – see column 9, starting at line 17). In contrast (and as previously argued by applicants) Whetten et al. is teaching away from the narrow molecular weight distribution of the compositions of the present invention, given the comparatively broad molecular weight distributions of the composition in the examples of Whetten et al. Alternatively stated: Whetten et al. do not teach or suggest that the "component A" of their compositions (i.e., the component to be impact modified) should have a narrow molecular weight distribution (or, more

particularly, that the overall composition should have a molecular weight distribution of from 2.2 to 2.8).

Thus, in summary, the present invention relates to I/M containers which are made from polyethylene having a comparatively narrow molecular weight distribution of from 2.2 to 2.8 and the present invention is made without a low density impact modifier. Whetten et al. do not teach or suggest such I/M containers. Most significantly, the technology taught by Whetten et al. must contain a low density impact modifier (see component B of claim 1, which must have a density of from 0.85 to 0.91 g/cc).

Accordingly, applicants respectfully submit that Whetten et al. do not teach or suggest the present invention. The I/M containers of the present invention must have a comparatively narrow molecular weight distribution (of from 2.2 to 2.8) and are made without a low density impact modifier. Whetten et al. make no such teachings. Therefore, applicants respectfully submit that the examiner's allegation that the "prior art products are identical or substantially identical" is not supported by objective evidence.

In the corporate world research is planned to develop data in order to confirm ideas suggested for commercial application. Researchers, especially in the petrochemical industry, are chemists and chemical engineers. In the area of applied research, such as process development, the researchers are more than likely chemical engineers having a bachelor's and sometimes a master's degree.

The statutory requirement for non obviousness is 35 USC § 103 which reads:

> A patent may not be obtained though the invention is not identically disclosed or described in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject pertains. Patentability shall not be negatived by the manner in which the invention was made. Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

The Supreme Court made its famous interpretation of the statute in *Graham v. John Deere*, 148 USPQ 459 (S. Ct. 1966). The Court really gave its interpretation of how the new statute was to be applied. Its famous holding was really a rewording of the statutory language, and nothing was added. The Court held:

> While the ultimate question of patent validity is one of law, [citation omitted], the § 103 condition, which is but one of three, each of which must be satisfied, lends itself to several basic factual inquiries. Under § 103, the scope and content of the prior art are to be determined; the differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or non obviousness of the subject is determined.

What the Court added was some guidelines of when something may not really be obvious -- the secondary factors which are the indicia of non-obviousness. The factors listed by the Court are also well known, but are listed herein below:

1) commercial success; 2) long felt but unsolved needs; 3) failure of others; 4) etc.

A very important consideration is that the list was not meant to be exhaustive. Note the "etc.". But what should be remembered is that evidence of these secondary are

used to **rebut** a *prima facie* case of obviousness. However, in the present examination the examiner has urged that the reference compositions are essentially identical to those of the present invention, which has been shown, not to be the case.

This is not rebutting the *prima facie* case but determining whether a *prima facie* case has been made out. If a claimed invention was only obvious to try, based on the prior art properly combined, then the invention is patentable. See *In re Huellmantel*, 139 USPQ 496,499 (CCPA) *In re Panzer,* 144 USPQ 415, 417 (CCPA), *In re Tomlinson*, 150 USPQ 623, 626 (CCPA), *In re Henderson,* 146 USPQ 372 (CCPA), and more recently *In re Geiger,* 2 USPQ 2d 1276 (CAFC 1987).

Some guidance as to when something was obvious to try was given in *In re Tomlinson, supra* at 426 where the court held:

> Slight reflection suggests, we think, that there is usually an element of 'obvious to try' in any research endeavor, that it is not undertaken with complete blindness but rather with some semblance of a chance of success, and that patentability determinations based on that as the test would not only be contrary to statute but result in a marked deterioration of the entire patent system as an incentive to invest in those efforts and attempts which go by the name of 'research'.

However, the best discussion of when something is only "obvious to try" is given by the court in *In re O'Farrell*, 7 USPQ2d 1673 (Fed. Cir. 1988) at 1681. Therein the court enumerated two specific instances which cause the trap of obvious to try:

> ..what would have been 'obvious to try' would have been to vary all parameters or try each of numerous possible choices until one possibly arrived at a successful result, where the prior art gave either no indication of which parameters were critical or no direction as to which of many possible choices is likely to be successful.

and/or

> "what was 'obvious to try' was to explore a new technology or general approach that seemed to be a promising field of experimentation, where the prior art gave only general guidance as to the particular form of the claimed invention or how to achieve it.

Both of these types almost perfectly describe the type of applied research carried out by corporate research departments and thus the resulting claimed inventions are patentable. The examiner has urged also that routine experimentation can be used, which fall under the first situation outlined in *In re O'Farrell*. If the teachings fall under either or both of the situations then the claimed invention is only "obvious to try" not obvious.

In addition, the I/M containers of the present invention must also be made from copolymers which have a very narrowly defined density range of from 0.950 to 0.960 g/cc.

Applicants have provided evidence that the I/M containers of the present invention have an excellent combination of Vicat softening point (or, alternatively stated, high stiffness at elevated temperatures) and good drop strength.

Applicants respectfully submit that the invention defined by present claims 1-3 is in no way taught or suggested by Whetten et al.

The present claims were also rejected under 35 USC 103(a) in view of a combination of the teachings of Whetten et al. in view of de Groot et al.

The compositions taught by de Groot et al. contain two comparatively low density olefin polymers:

Component (A) – which has a density of from 0.850 to 0.920 g/cc; and

Component (B) – which has a density of from 0.890 to 0.942 g/cc.

It will be recognized by those skilled in the art that the use of a low density polymer as an impact modifier is well known to improve the impact resistance of a polyolefin composition. However, the use of the low density polymer as an impact modifier also reduces the Vicat softening point. This is discussed by de Groot et al. at column 1, lines 54-65. In contrast, the I/M containers of the present invention do not contain a low density impact modifier. Moreover, the I/M containers of the present invention are prepared with a high density polymer composition (of from 0.950 to 0.955 g/cc) and have a very high Vicat softening point.

Applicants respectfully submit that the teachings of de Groot el al. in no way suggest the present invention. Moreover, a combination of the teachings of de Groot et al. with Whetten et al. would in no way lead to the high density compositions which are used to make the I/M containers of the present invention. To the contrary, applicants respectfully submit that the teachings of de Groot et al. highlight the advantages of comparatively low density composition (and thus teach away from the present invention).

In summary, applicants respectfully submit that the present claims are in condition for Allowance and such Allowance is respectfully submitted.

Respectfully submitted,

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